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SRI LANKA

Improving Living Conditions with Wind Energy

Clean, renewable energy benefits isolated fishing community...



The system has been providing an average of about 12 kilowatts of electricity per day distributed via overhead lines to a mini-grid of 35 families, a church, a store and a community center.

Challenge

Bathalangunduwa is an island that lies off the western mainland of Sri Lanka. It is home to 3,000 families and a small naval base. The people of Bathalangunduwa, some of whom are permanent residents and others migratory fishing families, live in small huts with sand floors, without running water or electricity, save for a few who use solar panels or automobile batteries. This does not mean the villagers cannot afford better amenities, or that they prefer to live as they do. The island simply does not have adequate resources to provide for its residents. There is ample wind, however, with the potential to improve the quality of life for the residents of Bathalangunduwa if properly harnessed.

Initiative

A USAID-sponsored partnership between Sri Lanka and the State of Arizona in 2002 assisted the U.S. micro-turbine manufacturer Southwest Wind Power and Sri Lanka's Industrial Services Bureau (ISB) to test wind turbines. A separate study of wind power potential sponsored by USAID identified Bathalangunduwa as a good candidate for wind power generation.

With USAID support, two micro-turbines and a battery bank were installed on the island in 2003. The turbines, with broad applicability in remote areas with good wind characteristics, generate 12 kilowatts of power per day. Power is transmitted via a mini-grid to 35 families, a church, a store and a community center.

The power system is maintained by the former diesel supplier, who is now owner-manager of the new operation. He is responsible for the supply of power, revenue collections and maintenance. This entrepreneurial element and the willingness of the community to pay for the service allowed for the sustainability and easy adoption of this system.

Results

Electricity has made work easier and safer for the villagers, enabling longer working hours and making a difference to their day-to-day lives. Previously, only one small generator existed in the village. It powered only 25 bulbs, which were rented for three hours a day at Rs. 300 (\$3) per month. Others spent about Rs. 500 (\$5) per month on kerosene for lighting.

Power from wind energy costs the islanders Rs. 350-400 (\$3 - 4) per month and permits them to keep two bulbs burning through the night. The cost includes a maintenance fee and a contribution to a revolving fund managed by ISB to improve wind power generation on the island.

Wind power has introduced a high quality energy source to the island that has reduced the reliance on hard-to-access external sources and has also increased the technical skills available in the community.